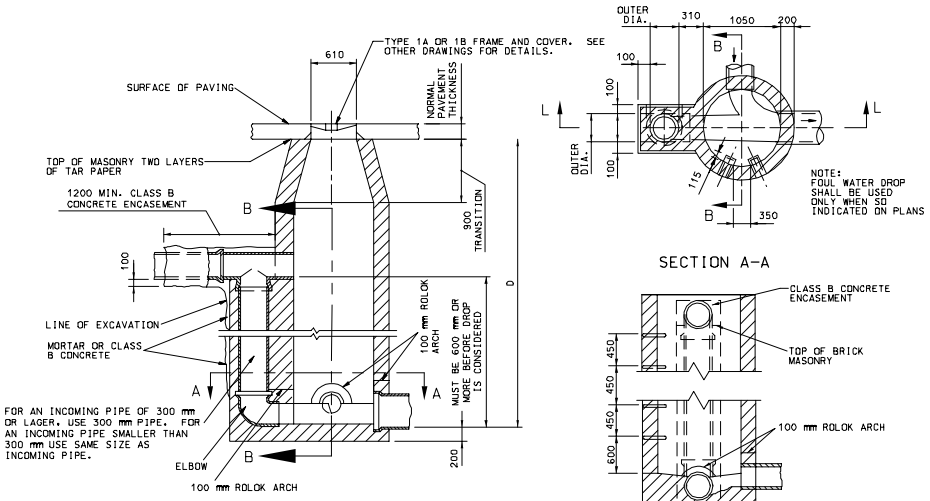
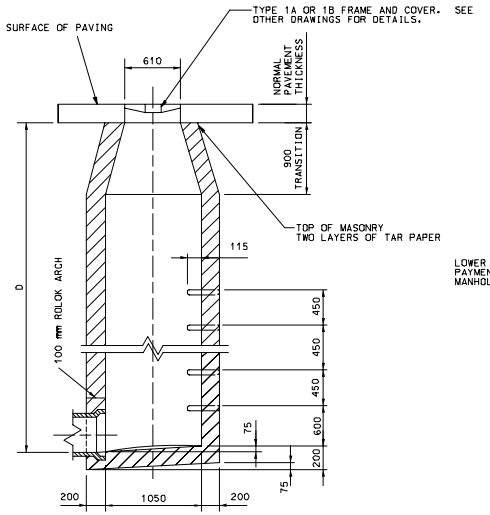


SECTION L-L

SECTION A-A

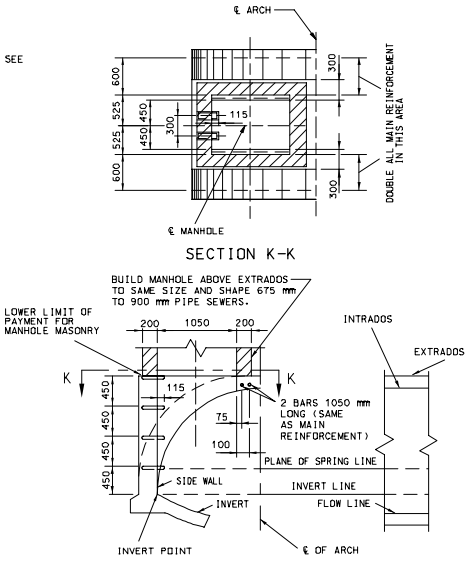
SECTION B-B

LINE MANHOLE ON PIPE SEWERS 600 mm IN DIAMETER AND SMALLER



VERTICAL SECTION THRU CENTERLINE

TERMINAL MANHOLE

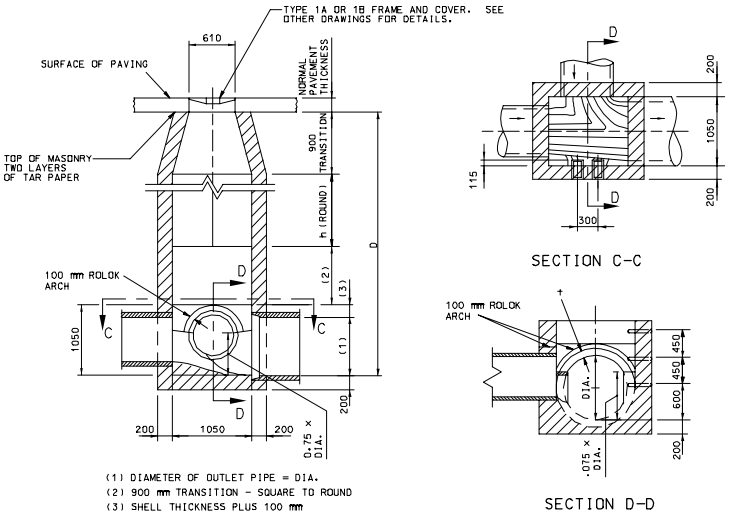


SECTION K-K

NOTE: FOR SEWERS LARGER THAN 6.0 m DIA. SEE SPEC. DETAILS.

VERTICAL SECTION THRU CENTERLINE

MANHOLE ON CONCRETE SEWERS



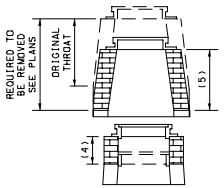
(1) DIAMETER OF OUTLET PIPE = DIA.
(2) 900 mm TRANSITION - SQUARE TO ROUND
(3) SHELL THICKNESS PLUS 100 mm

SECTION C-C

SECTION D-D

VERTICAL SECTION THRU CENTERLINE

LINE MANHOLE ON PIPE SEWERS 675 mm TO 900 mm IN DIAMETER



(4) AMOUNT OF RAISE - ALL NEW MATERIAL
(5) REBUILT THROAT TAPER SAME AS ORIGINAL

ADJUSTING EXISTING MANHOLE TO GRADE

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

BRICK FOR MANHOLES AND SEWERS SHALL MEET AASHTO M 91. BRICK FOR MANHOLES SHALL BE GRADE MM, AND BRICK FOR SEWERS SHALL BE GRADE SM.

ALL PIPE CONNECTED WITH A MANHOLE WILL BE MEASURED AND PAID FOR TO THE CENTER OF THE MANHOLE. THE ENDS OF ALL PIPE SHALL BE FLUSH WITH THE INSIDE FACE OF THE MANHOLE.

IN BRICK MANHOLES ON REINFORCED CONCRETE OR BRICK SEWERS MORE THAN 900 mm IN DIAMETER, ONLY THAT PORTION OF THE MANHOLE ABOVE THE TOP OF THE LARGER PIPE WILL BE PAID FOR AS BRICK MASONRY. ANY AND ALL PORTIONS BELOW THE TOP OF THE LARGEST PIPE WILL BE CONSIDERED AND PAID FOR AS PIPE.

EVACUATION WILL BE COMPUTED AND PAID FOR AS A PRISM, WHOSE AREA WILL BE EQUAL TO THE BASE OF THE MANHOLE.

INVERT SHALL BE COMPUTED AND CONSTRUCTED TO A HEIGHT EQUAL TO THREE-QUARTERS THE DIAMETER OF THE OUTLET PIPE.

VOLUME OF TAPERED SECTIONS WILL BE COMPUTED BY THE PRISMIDAL FORMULA. THE ARE AT MIDSECTION OF A TAPER FROM SQUARE TO ROUND IS:
0.250^2 (0.25 pi + 2 LOG TAN (0.375 pi) + 2 TAN (0.25 pi)) = $0.8877D^2$

FOR DETAILS OF MANHOLE FRAME AND COVER. SEE OTHER DRAWINGS.

THE ENTIRE EXTIRIOR SURFACE OF BRICK MANHOLES SHALL BE COATED WITH A 13 mm THICKNESS OF MORTAR.

NO DIRECT PAYMENT WILL BE MADE FOR CONCRETE ENCASEMENT, FOUL WATER DROPS, AND THE 13 mm COATING OF MORTAR APPLIED TO THE EXTERIOR SURFACE OF BRICK MANHOLES.

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BRICK MANHOLES

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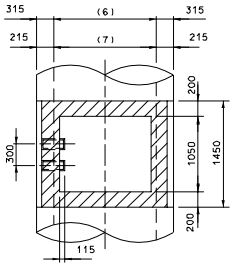
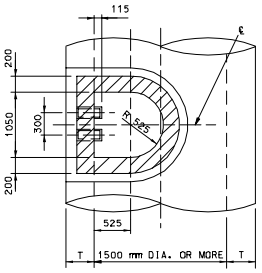
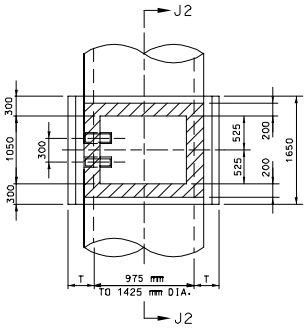
(6) 1425 mm DIA.
(7) 975 mm TO 1350 mm DIA.



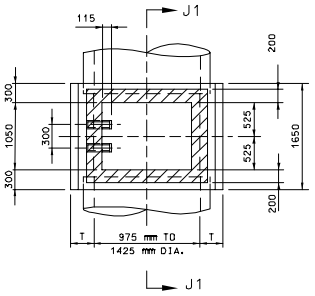
SECTION E-E



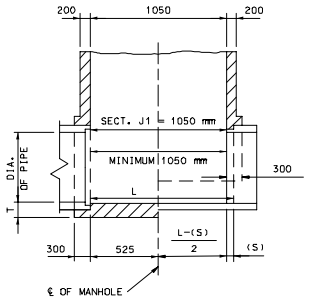
SECTION F-F



SECTION G-G



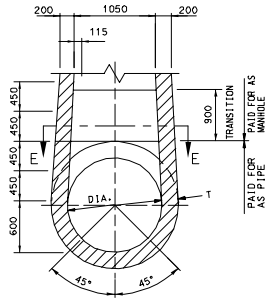
SECTION H-H



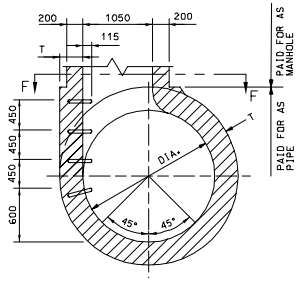
HALF SECTION J1 HALF SECTION J2

TABLE 1	
INSIDE DIAMETER OF SEWER (mm)	MINIMUM T (mm)
< 1425	215
1425 TO 1875	315
1950 TO 2400	425
2475 TO 2700	540

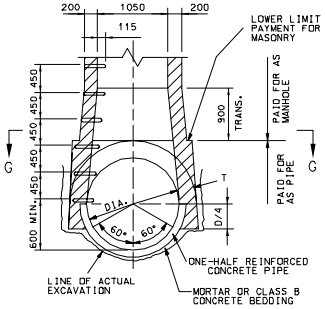
DESIGN DATA						
MANHOLE SIZE	BRICKWORK m^3		EXCAV. m^3	SIZE OF PIPE	ADD FOR INVERT	DEDUCT FOR PIPE OPENING
(INSIDE DIAMETER) mm	FLOOR	300 mm ⌀	300 mm M.H.	(mm)	(m^3)	(m^3)
600 ⌀		0.15				
⏢ 600 ⌀ TO 1050 ⌀		0.19				
⏢ 600 □ TO 1050 □		0.22				
1050 ⌀	0.33	0.24	0.50	200	0.10	0.01
				300	0.13	0.02
				375	0.15	0.03
				450	0.16	0.05
				525	0.15	0.06
1050 □	0.42	0.30	0.63	600	0.27	0.08
				675	0.25	0.10
				750	0.24	0.13
				825	0.22	0.15
				900	0.20	0.18
⏢ 1050 ⌀ TO 1050 □		0.27				



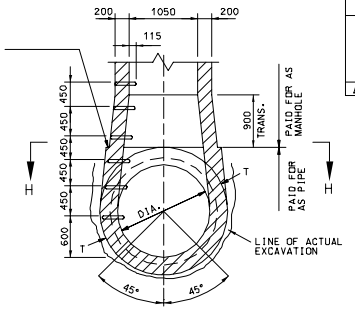
LINE MANHOLE ON BRICK SEWERS 975 mm TO 1425 mm IN DIAMETER



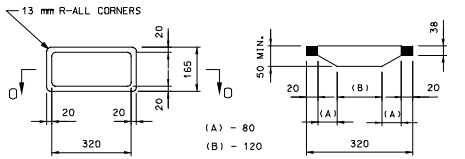
LINE MANHOLE ON BRICK SEWERS AND ON REINFORCED CONCRETE PIPE SEWERS LARGER THAN 1425 mm IN DIAMETER



ALTERNATE DETAIL FOR MANHOLE ON REINFORCED CONCRETE PIPE SEWER 975 mm TO 1425 mm IN DIAMETER



MANHOLE ON REINFORCED CONCRETE PIPE SEWERS 975 mm TO 1425 mm IN DIAMETER



MANHOLE STEPS SHALL BE SPACED ON 450 mm CTRS. VERTICALLY AND STAGGERED AS SHOWN LATERALLY TO A POINT NOT MORE THAN 600 mm BELOW TOP OF MASONRY.

PLAN SECTION O-O

CAST IRON MANHOLE STEP

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

BRICK MANHOLES

DATE:_____ EFFECTIVE:02-01-1995 M610.20E 2/2

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